



DEVELOPING IMMUNIZATION INFORMATION SYSTEMS

WHAT IS THE PUBLIC HEALTH ISSUE?

In 2005, 20 percent of the nation's two year-olds were not fully up-to-date on immunizations, placing them and others at risk of vaccine-preventable diseases. Public health officials cannot easily predict which communities are at risk for outbreaks of vaccine-preventable diseases. Because about 23 percent of U.S. children change healthcare providers by age two years and/or they receive immunizations from more than one provider, incomplete records are scattered among different providers resulting in both redundant and insufficient vaccination. Immunization information systems are needed that can easily and accurately track immunization coverage.

WHAT HAS CDC ACCOMPLISHED?

Immunization information systems (IIS) are confidential, computerized systems that record all shots on all children given by providers in a state or city catchment area. Many IISs also have functions and features needed by an immunization program (e.g. vaccine inventory management, adverse event reporting etc.) as well as interoperability with other health information systems including Electronic Medical Records (EMR).

CDC's target is to increase to 95 percent the proportion of children under six years of age participating in fully operational, population-based registries. The 2005 Immunization Information System Annual Report (IISAR) indicated that approximately 56 percent of U.S. children aged <6 years participated in an IIS, an increase from 48 percent reported in 2004, or approximately 2 million more children. Eleven (20 percent) IIS grantees had >95 percent of children aged <6 years participating in an IIS. Eleven (20 percent) other IIS grantees had participation ranging from 81 percent to 94 percent. The 2005 IISAR also reported that approximately 75 percent of public vaccination provider sites and 44 percent of private vaccination provider sites submitted vaccination data to an IIS during the last 6 months of 2005.

The American Immunization Registry Association (AIRA) collaborated with CDC to develop a National Immunization Information Systems research and evaluation agenda. AIRA continues to partner with the Health Level 7 (HL7) standards organization, an international community of healthcare subject matter experts and information scientists collaborating to create standards for the electronic exchange of information among healthcare oriented computer systems. Another CDC partner, Every Child By Two continues to work with the American Academy of Pediatrics, America's Health Insurance Plans, and engaged coalitions to work with local IIS staff on activities aimed at increasing provider participation.

CDC continues to fund immunization information systems sentinel sites that promote the population-based analysis of IIS data for assessment, surveillance, and immunization program evaluation. Funds are used by the sites in a variety of ways, including developing data quality improvement initiatives and calculating estimates of immunization coverage levels. These coverage estimates have been used at the national level to monitor the impact of vaccine shortages, most notably during the 2003–04 influenza vaccination season. To continue to expand national IIS activities, NIP invited eligible state registries to apply for funds and develop either a capacity building IIS site, aimed at improving IIS data quality and providing support for routine analysis of IIS data, or an implementation IIS site, aimed at performing numerous statistically-based, population-based assessments among children up to 18 years of age.

To assist grantees in developing standardized operational procedures in the immunization information systems, AIRA, in collaboration with CDC, used a consensus-based approach to develop guidelines on the management of the "Vaccine Level Deduplication guidelines". It is expected that these guidelines will aid systems in the adoption of common practices for determining patient vaccination status, and promote consistent use of definitions and rules of operations, thus improving data quality and usefulness of registry information

WHAT ARE THE NEXT STEPS?

The goal of immunization information systems is to generate data to support clinical decision-making by providers and to support immunization program efforts to provide strong leadership, sound decisions, effective priorities, and strong program accountability.

February 2007

